

File
ACT/019/012

June 3, 1982

State of Utah
Department of Natural Resources & Energy
Division of Oil, Gas & Mining
4241 State Office Building
Salt Lake City, Utah 84114

JIM

JUN 08 1982

Subject: Notice of Intention to commence mining operation
and mining and reclamation plan. UT - 060-GR-82-83

Dear Mr. James W. Smith Jr:

Submitted herewith is the Notice of Intention to commence mining operations and mining and reclamation plan for your perusal.

Should there be any questions or comments on the above, please contact me at P.O. Box 4148 Carson City, Nv 89702. Phone 702) 882-6825.

Thanking you in advance for your review and comments.

Sincerely yours,

Harold K. Kobayashi

Harold K. Kobayashi
President
Westwater, Inc.
P.O. Box 4148
Carson City, Nv 89702

RECEIVED
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DIVISION OF
OIL, GAS & MINING

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DIVISION OF
OIL, GAS & MINING

DRAFT

STATE OF UTAH
DEPARTMENT OF NATURAL RESOURCES AND ENERGY
DIVISION OF OIL, GAS AND MINING
4241 State Office Building
Salt Lake City, Utah 84114
Telephone: (801) 533-5771

NOTICE OF INTENTION TO COMMENCE MINING OPERATIONS
and
MINING AND RECLAMATION PLAN

Based on Provisions of the Mined Land Reclamation Act, Title 40-8, Utah Code Annotated 1953, General Rules and Regulations and Rules of Practice and Procedures, By Order of the Board of Oil, Gas and Mining.

Mine Name: HARLEY DOME MINERALS Mine Plan Date: June 4, 1982
File No.: ACT/_____/____ Date Received: _____
Operator: WESTWATER, INC. DOGM Lead Reviewer: _____
Mineral(s) to be Mined: Carbonaceous Shale

Please attach other sheets as needed and include cross-reference page numbers when used.

- Name of Applicant or Company: WESTWATER, INC.
Corporation (X) Partnership () Individual ()
- Address: Permanent: P.O. Box 4148
Carson City, Nv 89702
Temporary: 2031 Lone Mountain Drive #64
Carson City, Nv 89701
- Company Representative: Name: HAROLD K. KOBAYASHI
Title: President
Address: P.O. Box 4148 Carson City Nv 89702 Phone: 702) 882-6825
- Location of Operation: County Grand
Section(s): 22 Township(s): 19S Range(s): 25E
- Owner(s) of record of the surface area within the land to be affected:
Name: F.S.L. BAKER CO., INC. Address: 343 So 4th East, Salt Lake City 84111
Name: _____ Address: _____
Name: _____ Address: _____
Name: _____ Address: _____

6. Owner(s) of record of the minerals to be mined:

Name:	<u>F.J.L. BAKER CO., INC</u>	Address:	<u>343 So 4th East, Salt Lake City</u>	<u>84111</u>
Name:	_____	Address:	_____	_____
Name:	_____	Address:	_____	_____
Name:	_____	Address:	_____	_____

7. Owner(s) of record of all other minerals, including oil and gas, within any part of the land to be affected:

Name:	<u>BLM</u>	Address:	<u>Moab</u>
Name:	_____	Address:	_____
Name:	_____	Address:	_____

8. Have the above owners been notified in writing? ☒ Yes, ☐ No. If no, why not? _____

9. Have you or any other person, partnership or corporation associated with you received an approval of a Notice of Intention to Commence Mining Operations by the State of Utah for operations other than described herein? ☐ Yes, ☒ No. If yes, list all approval numbers now under surety:

10. Source of Operator's legal right to enter and conduct operations on the land to be covered by this Notice:

Westwater, Inc. has lease with F.J.L. Baker Co., Inc. to mine and market minerals (carbonaceous shale).

11. Give the names and mailing addresses of every principal Executive, Office, Partner (or person performing a similar function) of Applicant:

Name	Title	Address
A. <u>Harold K. Kobayashi</u>	<u>President</u>	<u>P.O. Box 4148 Carson City, Nv 89702</u>
B. <u>Richard G. Chang</u>	<u>Secretary</u>	<u>P.O. Box 4148 Carson City, Nv 89702</u>
C. _____	_____	_____
D. _____	_____	_____

12. Has the Applicant, any subsidiary or affiliate or any person, partnership, association, trust or corporation controlled by or under common control with the Applicant, or any person required to be identified by Item 11 ever had an approval of a Notice of Intention to Mine or Explore withdrawn or has surety relating thereto ever been forfeited? () Yes, (X) No.

If yes, please explain: _____

Please note: Section 40-8-13 of the Act provides that information relating to the location, size or nature of the deposit, and marked confidential by the Operator, shall be protected as confidential information by the Board and the Division and not be a matter of public record in the absence of a written release from the Operator, or until the mining operation has been terminated as provided in Subsection (2) of Section 40-8-21 of the Act. This material should be so marked and included on separate cross-referenced sheets.

13. All maps and plans prepared for submission shall be of adequate scale and detail to show topographic features and clearly indicate the following details:

- A. Location and delineation of the extent of the land previously affected, as well as the proposed surface disturbance.
- B. Existing active or inactive, underground or surface mined areas.
- C. Boundaries of surface properties, including ownership.
- D. Names and locations of:
 - (1) Lakes, rivers, streams, creeks and springs. See encl. map Dept. of Interior
 - (2) Roads, highways and buildings. N.A.
 - (3) Active or abandoned facilities.
 - (4) Transmission lines within 500 feet of the exterior limits of land affected. None
 - (5) Gas and/or oil pipelines. See map attached
 - (6) Site elevation. See enclosures
- E. Drainage patterns of land affected:
 - (1) Overburden or topsoil removal and storage areas.
 - (2) Areas susceptible to erosion.
 - (3) Natural waterways.
 - (4) Constructed drainages, diversions, berms and sediment ponds None (design calculations shall be included).
 - (5) Receiving waters (State Health classification). None
 - (6) Directional flow of all surface waters (indicated by arrows). See Map
- F. Known drill holes:
 - (1) Location. See Map
 - (2) Status. Not available to applicant as of date hereof.

- (3) Depths and thicknesses of:*
- a. Water bearing strata. None
 - b. Mineral deposits. Carbonaceous Shale
 - c. Toxic or potentially toxic materials. None
 - d. Surficial or plant supporting material (topsoil and subsoil). See enclosures
- G. Locations of disposal and stockpile areas: See enclosures
- (1) Topsoil and subsoil storage areas.
 - (2) Overburden storage area.
 - (3) Waste, tailings, rejected materials. None
 - (4) Raw ore stockpile(s).
 - (5) Tailings-ponds and other sediment control structures. None
 - (6) Discharge points, water effluents (see #15[D]). None

All maps should have a color code or other suitable legend used in preparation to clearly indicate surface features of the land affected. A general reference map completed on a 7.5 (1:24,000) USGS quadrangle sheet is recommended with additional large scale maps included for practical delineation of individual facilities, (e.g., 1:200, 1:500).

14. Acreage to be disturbed:

- A. Minesite (operating, storage, disposal areas, etc.): Shop trailer/Truck Parking - 1 acre
- B. Access/haul roads/conveyors: See (Location and Topography Map)
- C. Associated on-site processing facilities: None

15. Describe mining method to be employed, including:

- A. Mining sequence:
- (1) Map delineating the yearly sequential disturbance (if surface mine) and/or surficial disturbance. See enclosures
 - (2) Narrative (including on-site processing or mineral treatment): None
- Shale is scooped by loader and loaded into trucks and hauled to Rail Siding in Westwater, Utah.

There is no onsite processing of any kind.

Attach supplemental sheets and/or diagrams as necessary with cross reference to page number here: 2.

*Stratigraphic or lithologic logs if correlated to footage depths may be presented when labeled (maps or logs should be labeled confidential, if so desired).

B. If sedimentary deposit seam(s):

(1) Thickness(es): 10 to 20 feet

(2) Dip: _____

(3) Outcrop: Mostly above valley floor (Mound)

C. Will any underground workings or aquifers be encountered? () Yes, (X) No. If yes, describe potential impacts and protection measures to be taken: _____

D. Describe any active discharge or proposed discharge of water from mine or site area. Include water quality data and lab test reports. If attached sheets or reports are included, cross reference to page number here: _____.

No discharge of any water anticipated. Shale to be mined are dry compacted material 10 to 20 feet above valley floor.

16. Have all necessary water rights been appropriated? () Yes, (X) No. How will water be obtained? Please

explain: Spray water for dust control may be obtained from outside source
by water trucks.

17. Proposed or estimated duration of mining operation: 10/15 Yrs based on economics. Will the permit term be for a lesser amount of time, subject to review?

(e.g., for surety estimate reasons). (X) Yes, () No. If yes, how long?

Length of time is based on economics at
the market place.

18. Describe the construction and maintenance of access roads including:

A. Procedures (drainage and erosion control methods).

B. Cross section(s).

C. Profile(s) of proposed road grade(s).

SEE ATTACHED MAP.

Attach supplemental diagrams and cross reference to page number here: 3-3A-3B- & 3C.

19. Prior land use(s): Pasture Land

Current land use(s): " "

Possible projected or prospective future land use(s): Pasture Land

20. Describe methods of tree and brush removal: SEE ATTACHED SHEET

Provide estimate of, and method of obtaining existing vegetation cover (%):

SEE ATTACHED SHEET

What types of dominant vegetation are present? Brush and Juniper Trees.

Photographs and/or maps may be attached to these forms, cross reference to page number here: 4, 4A, 4B & 4C.

21. Soils (surficial plant supportive material) and overburden: Except where slope or rocky terrain make it impossible, all surficial materials suitable as a growth medium shall be removed, segregated and stockpiled according to its ability to support vegetation (as determined by soil analysis and/or practical revegetation experience) prior to any major excavation. (Suggested minimum requirements are the top six inches, or the "A" horizon, whichever is larger.)

A. What is the pH range of the soil before mining? See attached 4.76
Name of person or agency and method of determining pH: See attached Am. Museum of Natural History

Attach lab report if available. Cross reference page number here: 5 & 5A.

B. Average depth of topsoil and subsoil to be stripped and stockpiled: 200/250 Yds. Calculated volume of soil to be stockpiled: _____

C. Describe the method for removing and stockpiling topsoil and subsoil, including measures to protect topsoil from wind and water erosion, compaction and pollutants: See attached 4A

D. Describe the method for removing and stockpiling overburden. Describe and discuss the acidity or alkalinity (pH) or other characteristics which would affect revegetation: See attached 5 & 5A

- E. Rock subjected to processing such as waste rock, tailings, etc., and which is to be disposed of on- or off-site must be subjected to a toxicity analysis. The method of determination, results and suitable disposal methods must be explained in detail, including means for containment and long range stability*: Not applicable to the anticipated type of mining. The mined shale is removed & transported to the Rail Siding. The surface rock (over burden) will be used as sub base material to fill the hollow are where shale was removed, together with trees removed and leveled with top soil mixed with shale prior to planting of grass via seeding.
- _____
- _____
- _____
- _____
- _____
- _____
- _____

22. Describe the methods used to minimize public safety and welfare hazards during and after mining operations including:

- A. Shaft, tunnel and drill hole closure. N.A.
- B. Disposal of trash, scrap metal and wood and extraneous debris, waste oil and solvents, unusable buildings and foundations, sewage and other materials incident to mining. N.A.
- C. Posting of appropriate warning signs and/or fences or berms to act as barriers (e.g., above nighwalls) in locations where public access is available. N.A.

*"Toxic" means any chemical or biological or adverse characteristic of the material involved which could reasonably be expected to negatively affect ecological or hydrological systems or could be hazardous to the public safety and welfare.

23. Grading and soil redistribution.

- A. Attach pre- and postmining contour cross sections, typical of regrading designs. Cross reference to page number here: No. 10.
- B. Describe the method(s) of overburden replacement and stabilization and highwall elimination, including: (a) slope factors; (b) lift heights; (c) compaction; (d) terracing, etc., (e) also include testing procedures: No highwall is required in the reclamation process. The finish grade will be the continuation of the existing valley (Flat Area). The shale area that is to be mined rises above the valley floor 10/20 feet and when that is removed, the valley floor and the area where shale was removed become contiguous in elevation.
- C. What method of spreading topsoil and subsoil or upper horizon material on the regraded area will be employed? See attached 6 & 6A
1. Indicate the approximate depth of soil cover after final surfacing Six (6) inches.
2. What tests will be performed to adequately evaluate the potential of the soil to successfully support intended revegetation? Soil will be compacted by weight of loader used to grade the area. By this method compaction could be as high as 80 percent, which should support revegetation.
3. What soil amendments or fertilizers will be needed as an aid to revegetation?
- | | |
|---------------------------------------|------------------------------|
| Type: <u>Carbonaceous shale mixed</u> | Rate: _____ |
| Type: <u>with existing top soil</u> | Rate: <u>1 lb. per acre.</u> |
| Type: _____ | Rate: _____ |
4. What additional surface preparations will be used? Describe (a) drainage, erosion and sediment control measures; (b) maximum slope characteristics; and (c) highwall reclamation. Due to the existing grade of the valley are where the reclaimed land will be contiguous in elevation, the finish grade will not be more than a 2% grade. There should be very minimal sediment loss, subject of course to severe rain storm. No highwall is required. The last area (North) bordering Sect. 15 will be terraced to gradually meet the lower elevation.

5. Describe methods which may be particularly applicable to waste disposal areas determined to be potential problem areas. N.A.

- D. Describe plans for either leaving or reclaiming the roads and pads associated with the operation. See attachment 8

24. Impoundments: All evaporation, tailings and sediment ponds; spoil piles, fills, pads and regraded areas shall be self-draining and nonimpounding when abandoned unless previously approved as an impounding facility by a lawful state or federal agency. In view of this, please describe the reclamation of all related areas in the operation and include pertinent items enumerated in C, 1-5 above. N.A.

25. Revegetation plans:

- A. What organization, agency or person will specifically be performing the revegetation? WESTWATER, INC.
- B. Will the affected area be subject to livestock or wildlife grazing?
(X) Yes, () No. Will vegetation protection be needed to allow for a determination of the successful revegetation criteria outlined in the Mined Land Reclamation Act, Rule M-10(12)? () Yes, (X) No. If yes, what measures will the operator take?

- C. Will irrigation be used? () Yes, (X) No. Type: Water tank spray.
_____. For how long? _____.

- D. Test plots initiated during the early stages of mine development provide good bases from which a successful revegetation program can be adapted for later implementation. Will test plots be employed?
() Yes, (x) No. If yes, describe on an additional sheet(s) and attach. Cross reference page number here and show location on facilities map: _____.
- E. Please attach a revegetation plan and schedule including:
1. Species to be used.
 2. Rate of seed application/acre.
 3. Season to be planted.
 4. Seedbed preparation techniques.
 5. Planting location, slope face direction, variability, method of application, covering, etc.
 6. Mulch and fertilizer application, if used.
- F. Describe any other maintenance procedures which may be used, if needed, to guarantee successful revegetation:

See attached 4C

26. Please provide a reclamation schedule including:

- A. Estimated time for construction.
- B. Estimated time for interim reclamation.
- C. Estimated duration of the mining operation.
- D. A time table for the accomplishment of each major step in the reclamation plans. Attach the schedule and cross reference to the page number here: _____.

27. A surety guarantee must be provided for the mining operation (see Rule M-5 Mined Land Reclamation Act). In calculating this amount, the Division will consider the following major steps based on the information provided in this report:

- A. Clean up and removal of structures.
- B. Backfilling, grading and contouring.
- C. Topsoil and subsoil redistribution and stabilization.
- D. Revegetation (i.e., preparation, seeding, mulching, irrigation).
- E. Labor.
- F. Safety and fencing. N.A.
- G. Monitoring, and reseeding if necessary.

To assist the Division, the operator may attach a list of costs and factors which would satisfy these areas. Substantiation of these factors, i.e., unit costs and how they are derived, should accompany the list. Cross reference the page number here: attachment 9.

28. A request for a variance from specific commitments to Rule M-10 (Reclamation Standards) of the Mined Land Reclamation Act may be submitted with adequate written justification. If after presentation of information adequately detailing the situation, a determination is made that finds a portion of the rule inapplicable, a variance may be granted by the Division.

I hereby commit the applicant to comply with Rule M-10, "Reclamation Standards" in its entirety, as adopted by the Board of Oil, Gas and Mining on March 22, 1978.

The applicant will achieve the reclamation standards for the following categories as outlined in Rule M-10 on all areas of land affected by this mine, unless a variance is granted in writing by the Division.

<u>Rule</u>	<u>Category of Commitment</u>	<u>Variance Requested?</u>
M-10(1)	Land Use	_____
M-10(2)	Public Safety and Welfare	_____
M-10(3)	Impoundments	Yes _____
M-10(4)	Slopes	_____
M-10(5)	Highwalls	Yes _____
M-10(6)	Toxic Materials	Yes _____
M-10(7)	Roads and Pads	_____
M-10(8)	Drainages	_____
M-10(9)	Structures and Equipment	Yes _____
M-10(10)	Shatts and Portals	Yes _____
M-10(11)	Sediment Control	Yes _____
M-10(12)	Revegetation	_____
M-10(13)	Dams	Yes _____
M-10(14)	Soils	_____

I believe a variance is justified on a site-specific basis for the previous subsections of Rule M-10 as indicated. A narrative statement explaining these concerns is attached.

STATE OF NEVADA

COUNTY OF CARSON

I, HAROLD K. KOBAYASHI, having been duly sworn depose and attest that all of the representations contained in the foregoing application are true to the best of my knowledge; that I am authorized to complete and file this application on behalf of the Applicant and this application has been executed as required by law.

Signed: _____

Taken, subscribed and sworn to before me the undersigned authority in my said county, this 4TH day of JUNE, 1982.

Notary Public: _____

My Commission Expires: 11-26-83



PLEASE NOTE:

Section 40-8-13(2) of the Mined Land Reclamation Act provides for maintenance of confidentiality concerning certain portions of this report. Please check to see that any information desired to be held confidential is so labeled and included on separate sheets or maps.

Only information relating to the location, size or nature of the deposit may be protected as confidential.

Confidential Information Enclosed: () Yes (X) No

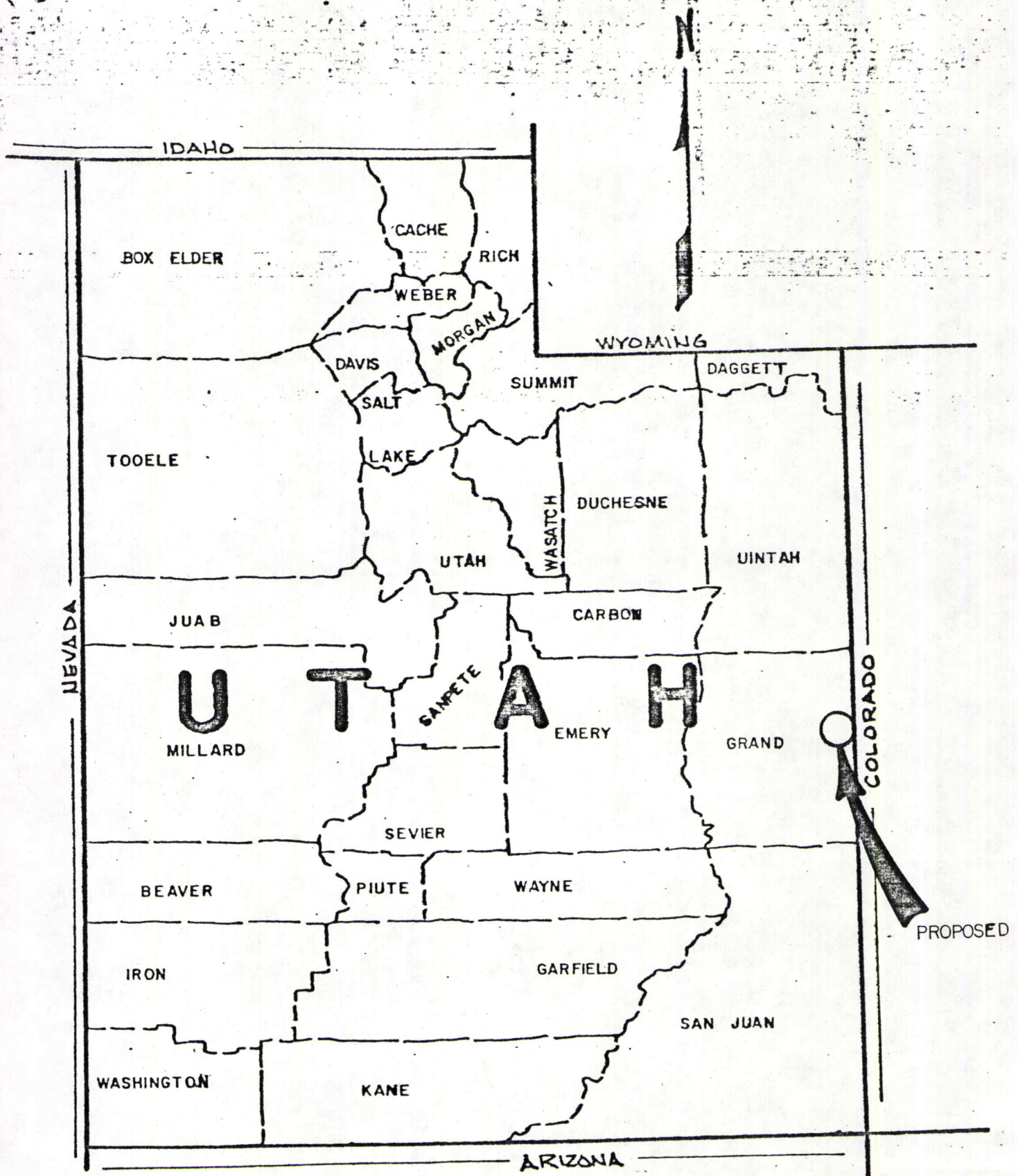
I N D E X

1. COUNTY MAP
2. MINING METHOD
3. GRADE OF ROAD (PERCENT)
- 3A. TYPICAL DRAINAGE DIP
- 3B. " ROAD SECTIONS
- 3C. " CULVERT INSTALLATIONS
4. GENERAL INFORMATION
- 4A. REMOVAL & STOCKPILE OF SOIL/OVERBURDEN
- 4B. " " " CONTINUED
- 4C. TYPICAL CUT & FILL METHOD
5. LAB TEST BY: AMERICAN RESEARCH CHEMICAL LAB
- 5A. " " " ENVIRONMENTAL BIOCHEMISTS
6. SEEDING INFORMATION
7. SPECIES OF GRASS
8. ROAD RECLAMATION STANDARDS
9. COST NARRATIVE FOR RECLAMATION OF LAND
10. TOPO MAP OF GENERAL AREA
11. WATER FLOW DIRECTION
12. AREA MAP SHOWING HIGHWAYS-RIVER AND MINING AREA

MRC MINERAL RECOVERY CORP.

STEATHMORE WRITING

25% COTTON PAPER



PROJECT LOCATION

2. Anticipated Mining Methods

The humate layer is overburdened with clay, shale, sandstone, and top soil. The thickness of the overburden varies from 0-40 feet.

The mining method will be strip-mining requiring a cut and fill process. The actual sequence of the mining process will be as follows:

- a) Removal & burn all vegetation (Juniper Trees, brush, etc.) on an area large enough to accommodate the initial mining operation (approx. 15 acres).
- b) Remove and store all top soil.
- c) Remove and store all overburden.
- d) Remove and ship the raw humate material.
- e) Replace the overburden.
- f) Replace top soil.
- g) Enrich the top soil with humate material.
- h) Replant the area with a recommended grass cover.

Each of the above items will be a continuing process as the mining expands into the area.

The strip mining will be accomplished by mechanical methods using dozer tractors, rippers, front-end loaders, etc. A small amount of blasting may be required, but should be minimal. The raw material will be shipped by truck to either Cisco, 20 miles away, or Westwater, 5 miles away. The humates will then be transported by railroad to California for final processing.

True
frame?

or use for
fill? see (4)

(2)

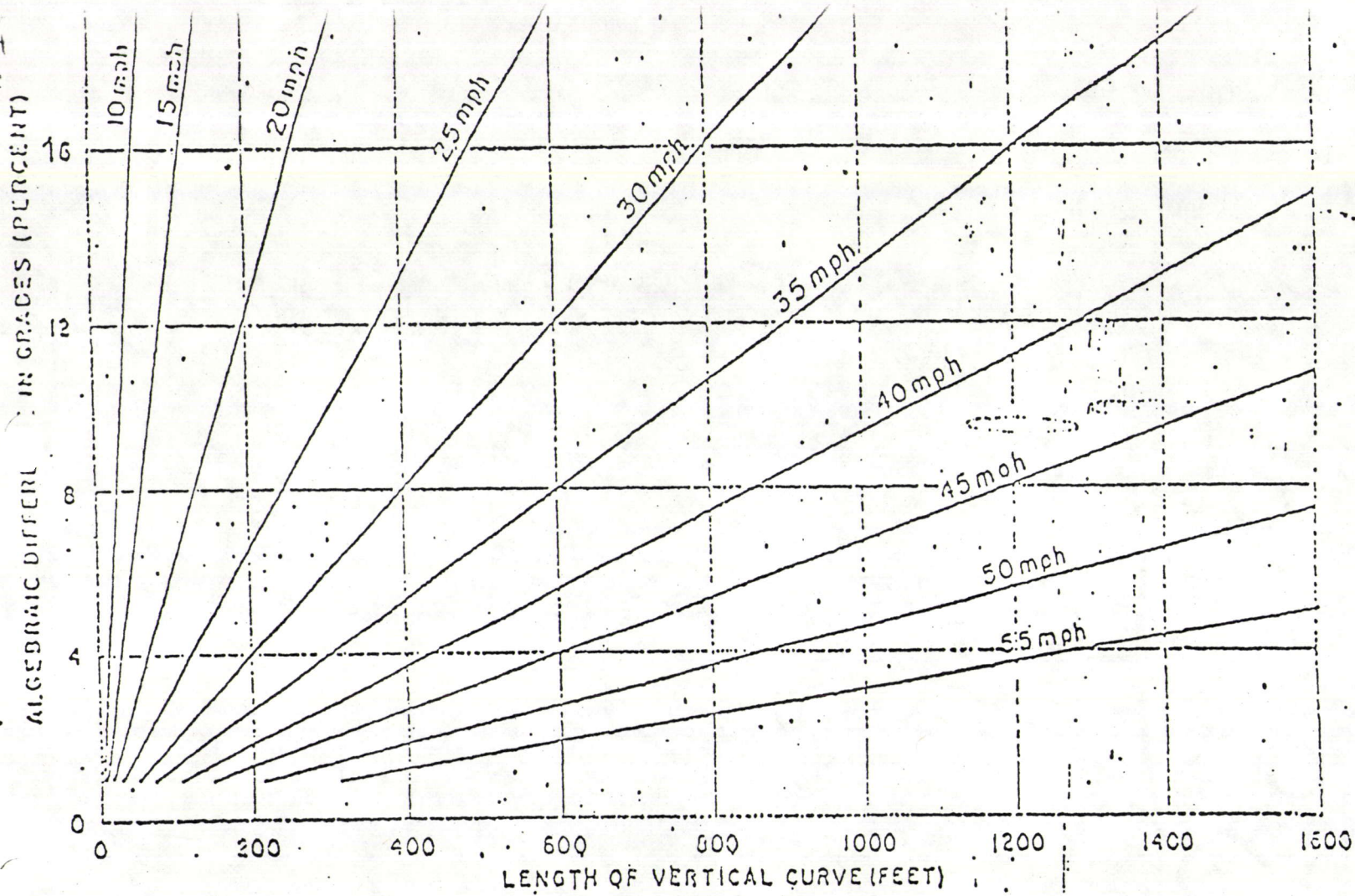
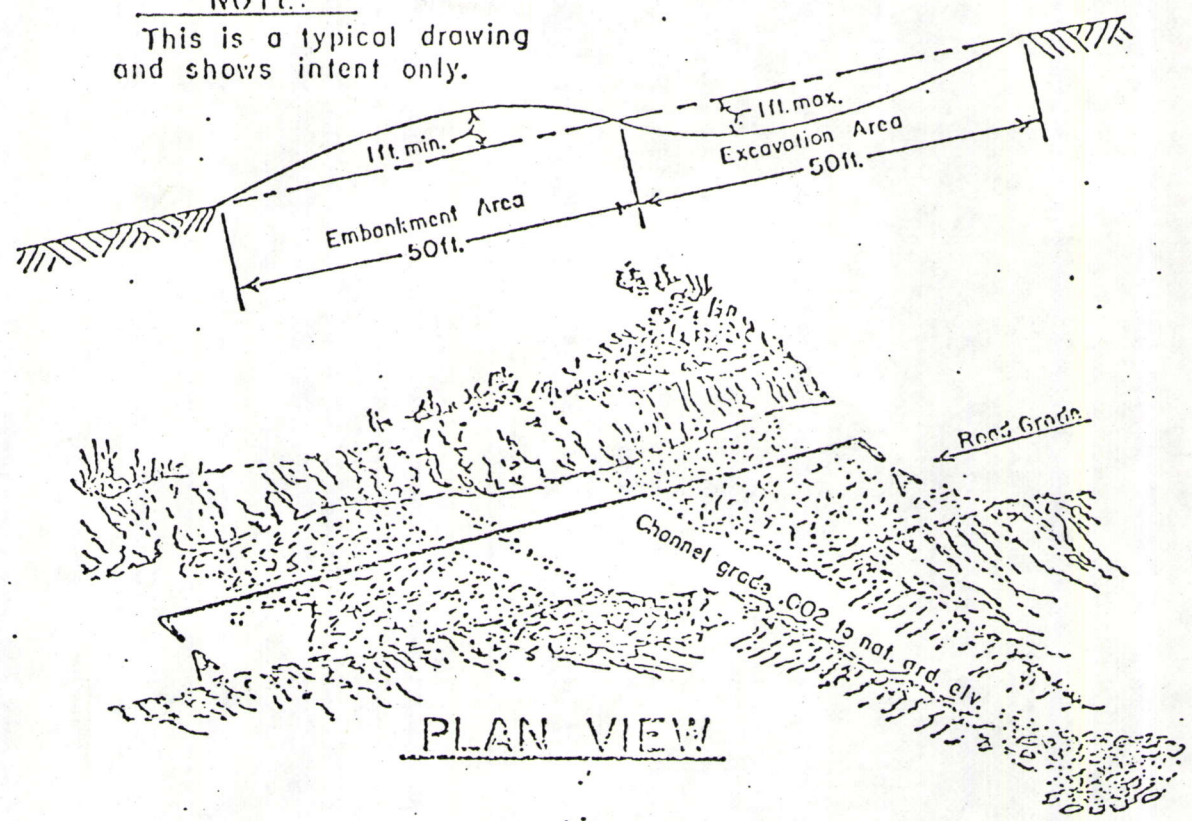


Chart for Estimating Length of Vertical Curves

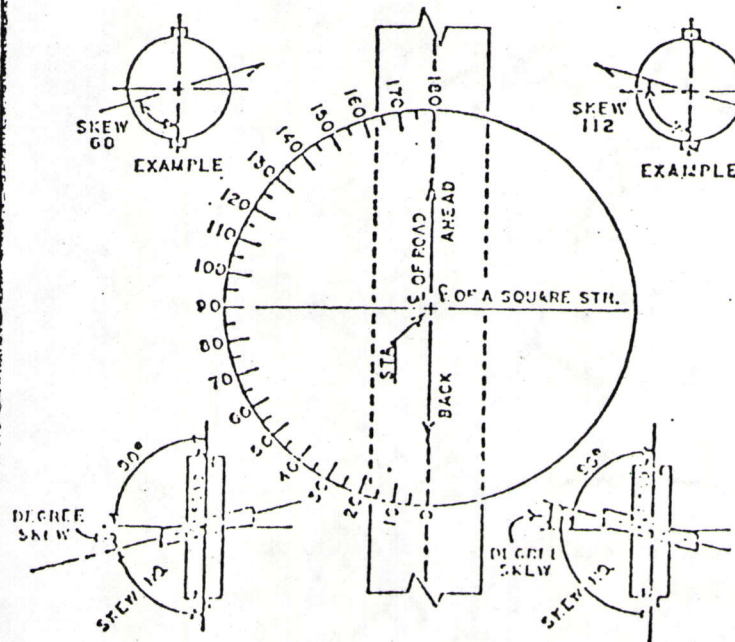
SECTION A A

NOTE:

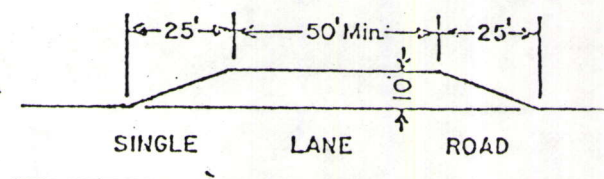
This is a typical drawing and shows intent only.



PLAN VIEW



SKREW NUMBER DEFINITION
(Culverts and Drainage Dips)



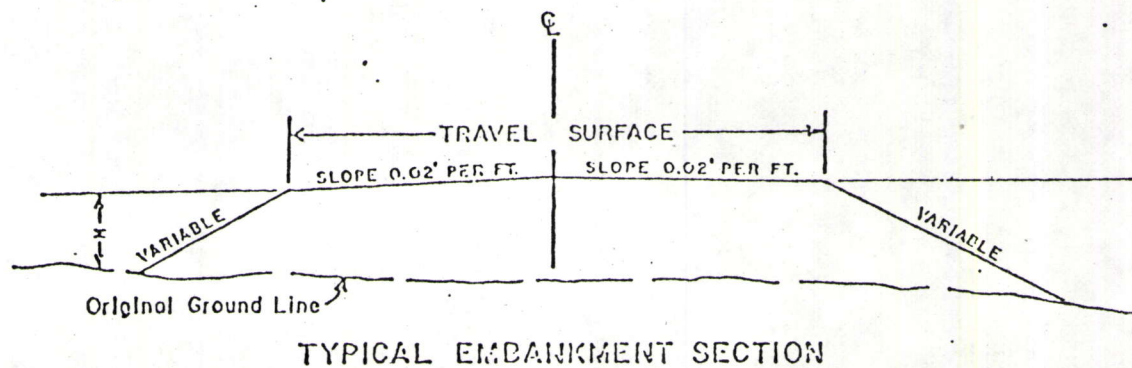
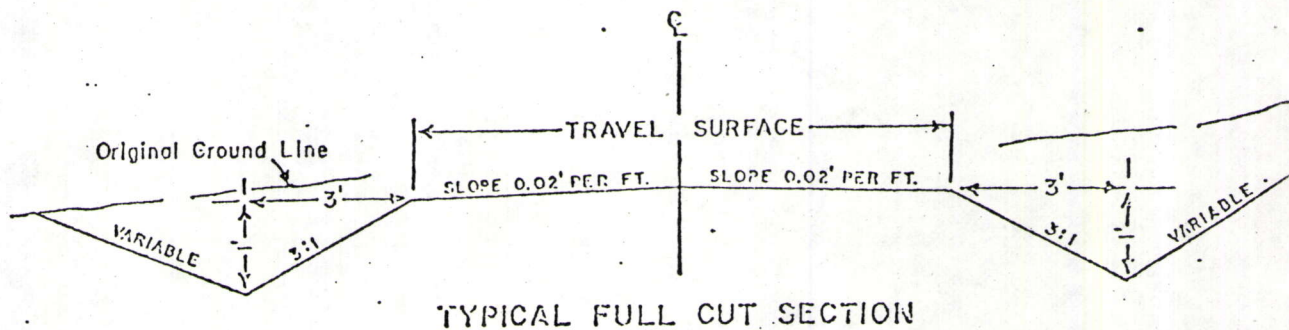
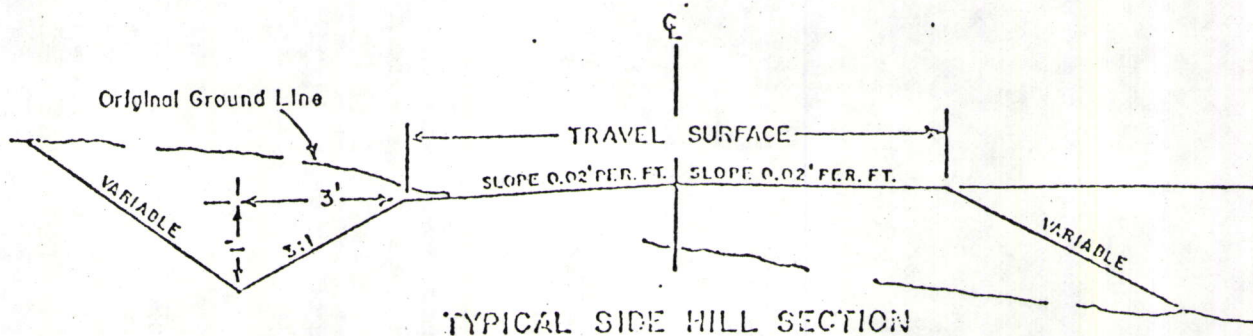
TYPICAL TURNOUT

U. S. DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

TYPICAL ROAD SECTIONS

DESIGNED ROAD	RECOMM.
DRAWN J.L.S.	RECOMM. <i>[Signature]</i>
CHECKED ROAD	APPROVED <i>[Signature]</i>
SCALE NONE	
DATE 9-7-51	SHEET 01
DRAWING NO.	

3-A



Height of Cut or Fill	Cut Slope	Fill Slope
0' - 3'	3:1	4:1
3' - 10'	2:1	3:1
OVER 10'	1 1/2:1	2:1
ROCK	1/4:1	---

U. S. DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

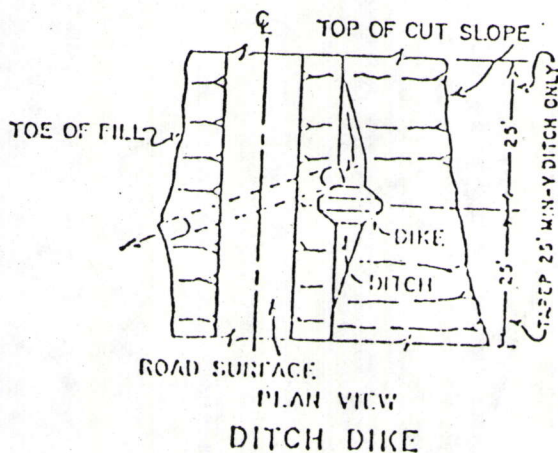
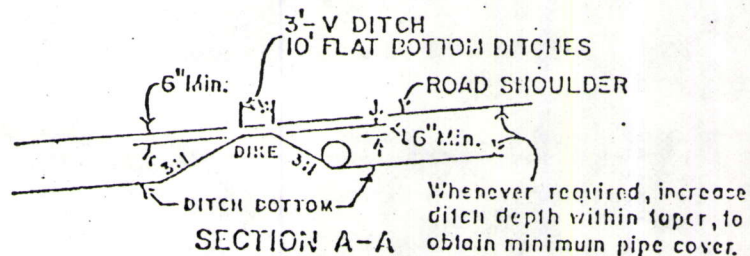
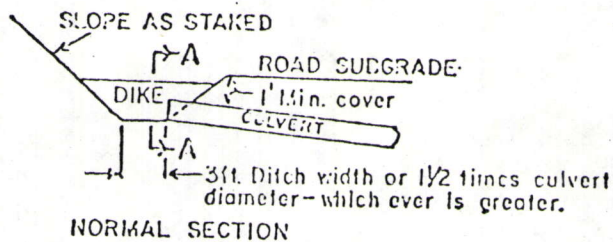
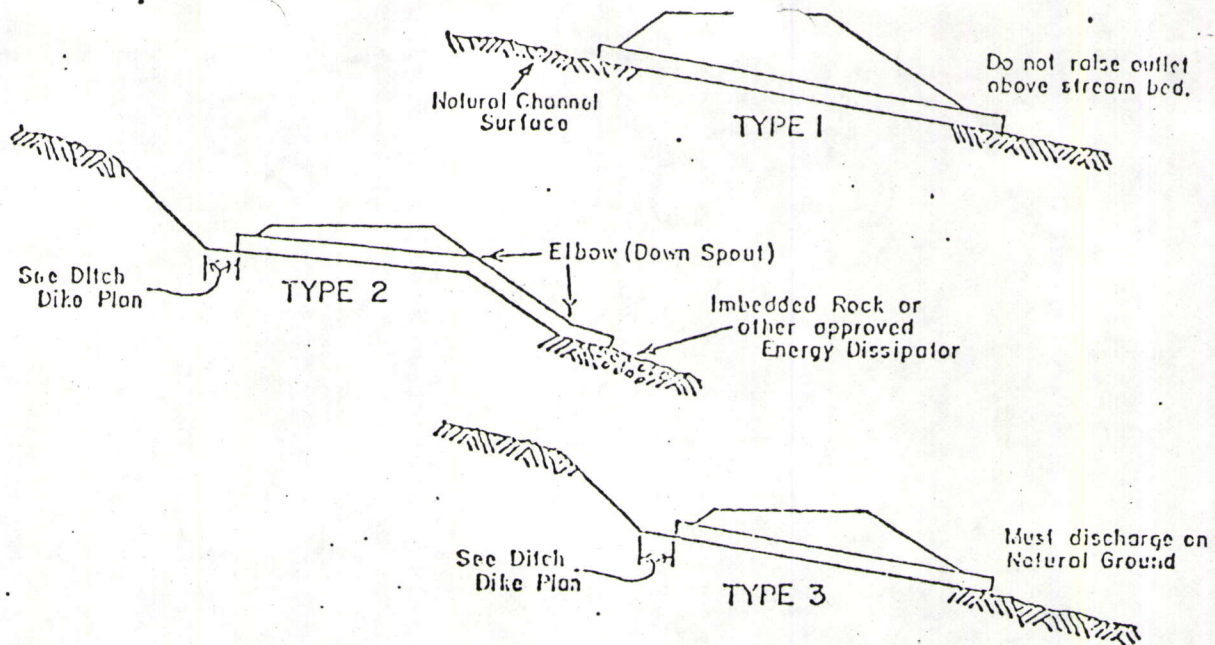
TYPICAL ROAD SECTIONS

DESIGNED H.A.D. RECOMM. ---
 DRAWN J.H.S. RECOMM. John C. Baker
 CHECKED J.A.P. APPROVED John C. Baker

SCALE NONE

DATE 8-5-31 SHEET --- OF ---
 DRAWING NO. ---

3-B



U. S. DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

TYPICAL CULVERT INSTALLATIONS

DESIGNED BY <u>BAW</u>	RECOMM. <u>BAW</u>
DRAWN <u>JLE</u>	RECOMM. <u>JLE</u>
CHECKED <u>JLE</u>	APPROVED <u>JLE</u>

SCALE NONE

DATE 8-5-84 SHEET 1 OF 1
DRAWING NO.

3-C

I. Roads

1. County (Existing)

During the time the trucks are hauling humate material to the rail siding, fresh water shall be applied to the road to control dust.

2. Access (County road to mining area)

Will be constructed and maintained according to the attached Class II Road Standards.

3. Haul roads shall be signed to warn and/or control traffic between the mine and the railroad loading area.

4. A pair of traffic caution lights shall be installed on each side of the train tressel. The lights shall be activated by the humate haul trucks when approaching the tressel and deactivated after passing.

5. Roads no longer needed in the mining activity shall be closed to all vehicular travel immediately. Topsoils shall be scattered over the road, disturbed surface shall be ripped or scarified and all natural drainages left open.

6. Area will be seeded in the fall by drilling. (Seed mixture and pounds per acre enclosed).

II. Mining Area

- a. Remove all vegetation (juniper trees, brush, etc.) on an area large enough to accommodate the initial mining operation (approximately 15 acres), and keep separate from topsoil and overburden.

The large trees and vegetation shall be stockpiled to be used in the reclamation process for erosion control and wildlife habitat.

- b. Remove and stockpile any topsoil, separate from the vegetation and overburden.
- c. Remove all overburden and keep separate from the vegetation and topsoils.
- d. Remove and stockpile the raw humate material.
- e. Place overburden in excavation.
- f. Replace topsoil and rip or scarify the disturbed area.
- g. Enrich the topsoil with humate material.
- h. Replant the area with a seed mixture specified by BLM. Seed shall be drilled in the fall of each year. Dead trees and vegetation removed from the mined area will be scattered back over the disturbed area they were taken from.

Each of the above items shall be a continuing process as the mining expands into the area.

The initial cut for the open pit excavation shall be on the exposed humate seam and shall traverse the side of the ridge where the humate is exposed. The cut shall be approximately 500 feet in length and 100 feet wide. Any overburden removal required on this cut shall be placed on the slope directly below the humate seam and serve as a pad to facilitate the mining operation. After the humate is removed from the initial cut, the next area to be mined shall be cleared of brush and topsoil and stockpiled at the end of the proposed cut. The exposed overburden shall then be bulldozed into the previously mined

section. (Each cut and fill operation shall involve approximately 15 acres). This shall provide access to the next block of humate to be removed. This process shall continue throughout the mining operation (see Figure 1).

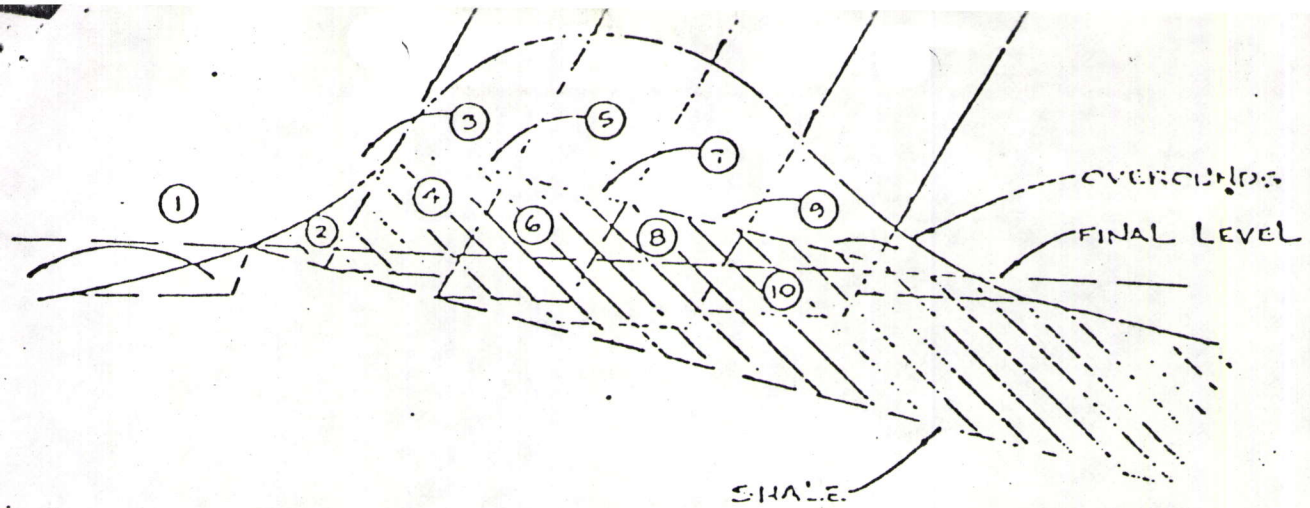
The strip mining shall be accomplished by mechanical methods using dozer tractors, rippers, front-end loaders, etc. A small amount of blasting may be required.

- i. All topsoil stockpiled and not used within one year, shall be seeded with a seed mixture approved by the authorized officer. *seed mix?*
- j. Vegetation establishment and reclamation must be completed to the satisfaction of the authorized officer prior to final bond release.
- k. Inhauling of soils may be required to reduce the surface depression caused by the mining operation and facilitate the rehabilitation. Such actions shall be determined by the authorized officer. The inhauled soils material will be provided by the mining company and at their expense.

III. Archaeology

The Holder shall determine whether any cultural resource site (CRS) identified by the previous inventory will be impacted by increments of the mining plan. (The cultural resource survey was done in April 1981, by Richard Clements with the Archaeological Center, Department of Anthropology, University of Utah, See Appendix II - Humates Environmental Assessment).

If CRS site(s) is present, the Holder shall engage the service of a qualified professional archaeologist approved by the BLM authorized



TYPICAL CUT & FILL METHOD DIAGRAM

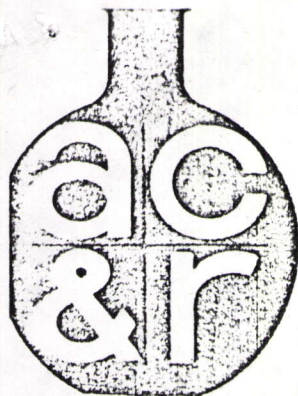
N.T.S.

STEP

- | | |
|---------------------------------------|-----------------------------|
| ① Initial Cut (Preparation) | ⑤ Overburden placement in ④ |
| ② Excavate Shale | ⑥ Excavate Shale |
| ③ Overburden placement in bottom of ② | Etc. ⑦, ⑧, ⑨, ⑩, |
| ④ Excavate Shale | |

Figure 1

4-C



American & Research Chemical Laboratories

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(801) 798-7471

ENVIRONMENTAL SERVICES • ANALYTICAL & AGRICULTURE CHEMISTS

CERTIFICATE OF ANALYSIS

FLOYD BAKER

DESCRIPTION

LIGNITE COAL

DETERMINATION

% FE
PPM CA
PPM K
PPM MG
PPM ZN
PPM MN
PPM CU
PPM P
PH
% N
HUMIC ACID
% ORGANIC MATTER
% MOISTURE
% ASH
% S
BTU/LB.

ANALYSIS

1.00
50
710
750
60
20
129
72
4.38
0.56
25.56
52.35
4.76
42.95
0.74
5,876

THANK YOU FOR YOUR PATRONAGE,

V.B. BENSON
PRESIDENT

5

Environmental Biochemists

4115 SILVER AVE., S. E.
ALBUQUERQUE, NEW MEXICO 87108
Telephone (505) 266-9106 - Night 296-6164

E.B. No. A75501

May 12, 1975

Ross Martinez
Box 1141
Española, N.M. 87532

Sir:

On May 1, 1975, you brought to our laboratory a humate sample for analysis. This is our report.

A solution of the sample was made using 10 grams soil/100ml water, and the solution was analyzed.

	Sample ppm	Recommended Values ppm
pH	7.70	6-8
Organic Matter, %	41.5	
Moisture, %	6.9	
Calcium	80	<6
Iron	34	1000
Sulfate	725	1400
Sodium	58	5
Chloride	<30	some
Magnesium	33	15
Manganese	2.5	0.5
Nitrate Nitrogen	240	18
Phosphate Phosphorus	5.3	20
Potassium	47	<50
Copper	1.0	some
Zinc	3.0	2-3
Lead	12	some
Barium	some	some

Recommended values are for fertilizer. ppm = parts per million. All values are based on wet weight.

If we can be of further service, please contact us: Thank you.

5-A

5. Drainage Dip Construction

Drainage dips shall be spaced in accordance with the following table:

Road grade (%)	Material
	Hard sediment
2	165
4	150
6	145
8	135
10	125

Culvert pipe shall be used for cross drains on grades in excess of 10 percent.

(A) Construction Requirements

Construction shall be as specified in paragraphs 3 and 4, and as shown on the drawings.

6. Seeding

- (A) The Company shall carry out erosion control items of vegetation establishment during the season established for seeding. Vegetation establishment shall be completed on areas of disturbance as they are completed if actual construction is being accomplished during the seeding season.

Seeding shall be carried out on all of the areas described as follows:

- (1) On cut slopes, and shall extend from the bottom of the ditch to the top of the cut slope.
 - (2) On embankment slopes, and shall extend from the roadway shoulder to the toe of the embankment slope.
 - (3) On all areas used for disposal of clearing and grubbing debris.
 - (4) On all borrow pit areas.
 - (5) On all "side cast" in areas of full bench construction.
- (B) Seeding season shall be from September 15 to December 15, or as otherwise allowed by BLM.

- (C) Seed application will be by seed drill or broadcasted and harrowed; other methods will require prior BLM approval.
- (D) Species and application rates are as follows:

Type of Grass Seed

Application Rate*

- refer to attached list -

* These rates will be increased by 2.5 times if seed is broadcasted.

discrepancies

THE COMPANY SHALL COMPLETE CONSTRUCTION OF THIS ROAD IN ACCORDANCE WITH ALL STIPULATIONS AND HAVE IT APPROVED BY BLM PRIOR TO ACTUAL MINING.

Desert

Semi-Desert

(Area coverage)

N. highway I-70 to first Bench of Bookcliffs
from Green River to Bar X field. All lands
So. highway I-70, Black Brush Zones, lands
west of 163 to the Green River.

Specieslbs/acGrasses

Oryzopsis hymenoides

Indian ricegrass

1

Hilaria jamesii

Galeta (Curlygrass)

1

Sporobolus cryptandrus

Sand dropseed

1

Forbs

Aster chilensis

Pacific aster

47 1/2

Helianthus annuus

Common sunflower
(Kansas sunflower)

6 1/2

Melilotus officinalis

Yellow sweetclover

26 1/2

Sphaeralcea coccinea

Scarlet globemallow

17 1/2

Shrubs

Atriplex canescens

Fourwing saltbush
(White greasewood)

1

Atriplex nuttallii cuneata

Wedgeleaf nuttall saltbush

1

Eurotia lanata

Winterfat (Whitesage)

1

Broadcast seed will be applied at double the above rate.

Seeding will be done in the fall of the year (Oct. - Dec.)

PLS

36.00

50.00

2.70

94.00

subject to collection

12.00

152

35.00

8.50

40.00

25.00

232.46/acre

SECTION 4

ROAD RECLAMATION STANDARDS

Roads servicing more than one operator or company will require a rehabilitation agreement between all principals for ultimate restoration. Such agreement must be approved by BLM prior to well abandonment by any of the companies involved.

No. 27 A,B,C,D,E,G.

In following the typical cut and fill method diagram (attachment 4-C), the use of equipment time is very essential in minimizing costs. Since the cutting and stockpiling of shale material is not necessary for this type operation, bulldozer time can be utilized for partial reclamation work of the area in question, progressively. The cost of reclamation work will be much higher should say, 15 acres of shale material was removed from a designated area and reclamation work were to commence. It is our intention to make partial reclamation as we go along and by this method, the operator cost of the equipment could be allocated to a per day cost of the operator/equipment. We intend to follow this format to minimize unsightly and massive cuts into the hillside.

We believe that by carefully laying out the area for the overburden storage in conjunction with the depth of the cut below grade to take in the overburden will create a fluid flow of events and at the same time minimizing the long distance hauling of the fill material.

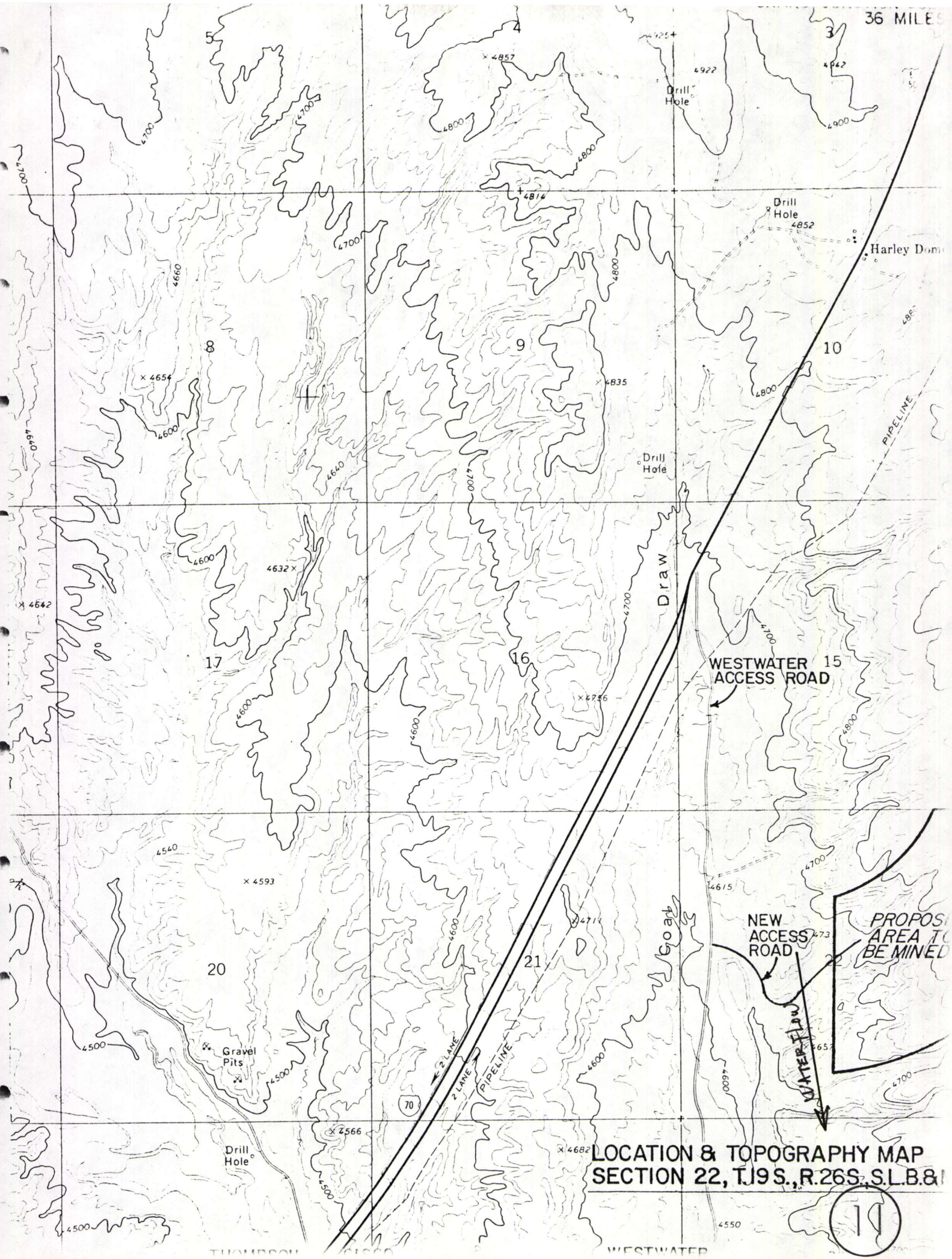
An allocation of 15¢ per ton of shale removed shall be put into a reserve account for this purpose. Since the majority of the shale to be mined is above finish grade of a minimum of ten feet, there will be months of mining and removing the shale prior to reaching the base where reclamation is to be applied. Consequently, the time lag will be many months away re reclamation work from the inception of mining.

Once the shale has been removed and the overburden put in place, with the shale and top soil mix, seed will be sprayed over it and water will be applied via water truck. Again, this will be done incrementally with the proper use of equipment and operator time considered.

The cost of seeding together with the preparation of the land and watering should cost approximately as follows:

Per acre:	Grading cost	\$ 1,500
	Seeding	200
	Watering	700
		<hr/>
		\$ 2,700.
	15 acre increment	15
	Estimated cost	<hr/>
		\$36,000
Average depth 10' x 15 ac.=242,000 yds		
		.15
Reserve account		<hr/>
		\$36,300

36 MILES



LOCATION & TOPOGRAPHY MAP
SECTION 22, T19S, R.26S, S.L.B. & I